What is claimed is:

1.   A surgical simulator comprising:

a display of a graphical surgical instrument;

a user manipulatable object;

a sensor to detect a manipulation of the object, the sensor providing a signal to the simulator to control the graphical image; and

a model of a heart, the model comprising a model of the electrical activity of the heart.

2.   A surgical simulator according to claim 1 wherein the graphical surgical instrument and the model of the heart are interactive.

3.   A surgical simulator according to claim 1 further comprising an actuator to provide a haptic sensation to the user.

4.   A surgical simulator according to claim 3 wherein the haptic sensation is provided through the user manipulatable object.

5.   A surgical simulator according to claim 1 wherein the model of the heart models deformation of the heart.

6.   A surgical simulator according to claim 5 wherein the deformation is related to the electrical activity of the heart.

7.   A computerized model of the heart comprising:

a plurality of polygons combining to form at least a portion of a model of a heart, each polygon associated with rules relating the motion of the polygon with the polygon's designated electrical properties and with the electrical state of an adjacent polygon.

8.   A computerized model of the heart according to claim 7 wherein the model comprises at least about 1200 cells.

9. A computerized model of the heart according to claim 8 wherein the polygons are capable of being generated at a rate of about 100 frames per second.

10. A method of designing a surgical instrument, the method comprising:
creating a computer model of the surgical instrument;
using the model of the surgical instrument in a surgical simulation;
changing the computer model of the surgical instrument; and
using the changed model in a surgical simulation.

11. A method according to claim 10 wherein the surgical simulation comprises haptic feedback.

12. A method according to claim 10 further comprising defining a goal for the surgical instrument and assessing the performance of the model of the surgical instrument in achieving the goal and the performance of the changed model of the surgical instrument in achieving the goal.

13. A method according to claim 12 further comprising comparing the assessments.

14. A surgical instrument made by a process comprising:
creating a computer model of a first version of the surgical instrument;
using the computer model in a surgical simulation;
changing the computer model to create a second version of the surgical instrument;
using the changed computer model in a surgical simulation;
manufacturing the surgical instrument according to the parameters of the second version of the surgical instrument.

15. A surgical instrument made by a process according to claim 14 wherein the surgical simulation comprises haptic feedback.